

REMARKS

In view of the above amendments and following remarks, reconsideration and further examination are requested.

Initially, replacement formal drawings for Figs. 33 and 34 have been provided so as to designate these figures as --Prior Art--. Also, in response to the Examiner's objection to the drawings, please note that reference numeral "62" is found in Figures 8-11.

The specification and abstract have been reviewed and revised to make editorial changes thereto and generally improve the form thereof, and a substitute specification and abstract are provided. No new matter has been added by the substitute specification and abstract.

By the current Amendment, claims 1-13 have been amended, claims 14-24 have been cancelled, and claims 25-60 have been added.

Prior to discussing the claims in view of the rejections issued by the Examiner, it is respectfully submitted that the apparatus claims, i.e. claims 1-13, 25-32, 47-50 and 55-60, are not restrictable from the method claims, i.e. claims 33-46 and 51-54. In this regard, apparatus claim 1 and method claim 33 have been drafted such that the apparatus as recited in claim 1 is to perform the method as recited in claim 33, and the method as recited in claim 33 requires the apparatus as recited in claim 1. Similarly, the apparatus as recited in claim 25 is to perform the method as recited in claim 36, and the method as recited in claim 36 requires the apparatus as recited in claim 25. Accordingly, it is respectfully submitted that all currently pending claims should be examined together.

Claims 12, 13, 19 and 20 (now 31 and 32) were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed for the following reasons.

Even though these claims can possibly be construed as either of the interpretations expressed by the Examiner, this by itself is not believed to be sufficient to render the claims indefinite. In this regard, there is no prohibition against the same claim expressing alternative features. Indeed, a broad claim can often cover a multitude of alternative features, yet still be in full compliance with 35 U.S.C. § 112, second paragraph. With regard to 35 U.S.C. § 112, second paragraph, the essential inquiry is whether a claim sets out and circumscribes particular subject matter with a reasonable degree of

clarity and particularity. Claims 12, 13, 31 and 32 clearly establishes the subject matter sought to be covered by these claims. Specifically, claims 12 and 31 require that either of the head sections can perform suction of larger components after finishing suction of smaller components, and claims 13 and 32 require that either of the head sections can mount smaller components after mounting larger components. One having ordinary skill in the art would fully understand the scope of the subject matter recited in these claims. Thus, claims 12, 13, 31 and 32 are in full compliance with 35 U.S.C. § 112, second paragraph.

The instant invention pertains to a method and an apparatus for mounting components onto a board at an increased rate while not increasing a size of the apparatus, even when types of boards and a number of components to be mounted on each board increase.

In accordance with a first aspect of the invention, mounting speed can be increased by providing plural component supply sections, plural horizontally rotatable members each having plural nozzles thereon, and plural recognition sections associated with the rotatable members, respectively. In accordance with a second aspect of the invention, mounting speed can be increased by successively sucking and then successively mounting components onto a board. Independent claims 1, 25, 33, 36, 39, 43, 47 and 48 are believed to be representative of Applicants' inventive method and/or apparatus.

Claims 1-4, 6-11 and 14-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kamijima et al. in view of Morita, claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kamijima et al. in view of Morita and Oyama, and claims 12, 13, 15, 19 and 20 were indicated to contain allowable subject matter. Presumably, claim 8 was also intended to be indicated to contain allowable subject matter, since this claim adds the same subject matter added by allowable claim 15. In any event, though the indication of allowable subject matter is greatly appreciated, these claims have not been rewritten in independent form because for reasons to follow it is respectfully submitted that each of the independent claims is allowable over the references relied upon by the Examiner.

On October 12, 2004, a personal interview was conducted with Examiner Nguyen and his supervisor Examiner Vo. The courtesies extended by Examiners Nguyen and Vo in conducting this interview are greatly appreciated. Initially during the interview, the prior art rejections were

discussed. Specifically, Applicants' undersigned representative explained why there would have been no motivation to modify Kamijima et al. in view of Morita to arrive at the claimed invention.

In this regard, the motivation provided by the Examiner in support of the rejection was stated as

to modify Kamijima et al.'s apparatus to have the rotary member and recognition sections as taught by Morita for speedily mounting electronic components to circuit board.

However, in column 5, lines 4-6 of Kamijima et al., it is stated that "more than one article may be picked up and placed at the same time". Whereas with Morita, due to the arrangement of nozzle-holding member 23 and nozzles 21 and 22, only one component can be picked up and mounted at a time. Thus, contrary to the above motivation provided by the Examiner, one having ordinary skill in the art would have thought that substituting a rotary member having nozzles, as taught by Morita, for the carrier 31 and gripping devices 18 of Kamijima et al. would actually increase the time required to mount components. Accordingly, one would not have sought to combine the teachings of Kamijima et al. and Morita.

Examiners Vo and Nguyen agreed that there would have been no motivation to substitute the rotary nozzle-holding member and nozzles of Morita for the carrier and gripping devices of Kamijima et al., and Oyama does not resolve this deficiency.

During the interview, Applicant's undersigned representative also explained why the "successively mounting" requirement, as recited in each of the currently pending independent claims, is not taught or suggested by Morita. Specifically, in Morita there is no successive mounting of components P1 and P2 because, as shown in Figures 4(a) - 4(j), a third component P3 is picked up after the first component P1 is mounted but before the second component P2 is mounted. Please see column 5, line 39 through column 6, line 60.

In view of the above, it is respectfully submitted that independent claims 1, 25, 33, 36, 39, 43, 47 and 48, along with their dependent claims, are allowable, and an early Notice of Allowance is earnestly solicited.

If after reviewing this Amendment, the Examiner believes that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicants' undersigned representative by telephone to resolve such issues.

Respectfully submitted,

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